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ABSTRACT

Some tentative evidence bears out the claims of competency based education (CBE) theory, suggesting that well implemented CBE programs can bring significant benefits; however, CBE still remains a largely untested innovation, according to the author of this analysis paper. He outlines CBE in theory--its definition, implications, benefits, and problems--and in practice, describing three CBE programs currently in operation (California's Basic Skills Program, Oregon's Life-Role Program, and the Fairfield-Suisun School District (California) Career Major Program). Incorporating information gleaned from interviews with school administrators, as well as from the literature on CBE, the author describes the implementation process and problems associated with instituting competency based education. He concludes that the best chance for successful implementation appears to lie in cultivating good staff morale, assessing outcomes early in curriculum development, and linking outcomes, instruction, and assessment in newly designed courses. (Author/DS)

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Competency - Based Education

THEORY & PRACTICE

Sydney Thompson

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FOREWORD

Both the Association of California School Administrators and the ERIC Clearinghouse on Educational Management are pleased to cooperate in producing the *School Management Digest*, a series of reports designed to offer educational leaders essential information on a wide range of critical concerns in education.

At a time when decisions in education must be made on the basis of increasingly complex information, the *Digest* provides school administrators with concise, readable analyses of the most important trends in schools today, as well as points up the practical implications of major research findings.

By special cooperative arrangement, the series draws on the extensive research facilities and expertise of the ERIC Clearinghouse on Educational Management. The titles in the series were planned and developed cooperatively by both organizations. Utilizing the resources of the ERIC network, the Clearinghouse is responsible for researching the topics and preparing the copy for publication by ACSA.

The author of this report, Sydney Thompson, was commissioned by the Clearinghouse as a research analyst and writer.

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THE RUSH TOWARD COMPETENCY-BASED EDUCATION

Competency-based education (CBE), which promises both accountable and progressive education, has been receiving widespread public and professional support. Theorists are promoting CBE as a means of major school reform, local districts are adopting it, and state legislatures and boards of education are mandating its statewide practice.

The turn toward CBE, beginning with Oregon in 1972, has been phenomenal. Goor reports that in 1976 twenty-eight states and the District of Columbia were engaged in developing and operating CBE programs. Pipho's survey, the most recent, identifies some eighteen states that have mandated some form of CBE and several more states where CBE decisions are pending. State legislative action has been so rapid that, according to Pipho as cited in "Minimal Competency Tests," "day-to-day bulletins are needed to keep up with the action."

The rush toward CBE adoption may seem surprising, but it can be explained as a meeting of developments in educational theory and technology and public demands for change. The public dissatisfaction with schools and requests for change have been clear and frequently expressed in the media. Oregon Governor Robert Straub, responding to tax levy defeats in several Oregon districts, has captured the public mood: "There is broad dissatisfaction here with the product that is coming out of the schools. People are unhappy with the education their children are getting." Whether or not justified in blaming schools, the public naturally points to declining achievement test scores and the marginal skill levels, even functional illiteracy, of high school graduates as reasons why the schools should return to stricter standards.

The major impetus toward CBE has not been public pressure, however, but the work of professional educators. Theor-

ists have developed CBE as a compelling fusion of several past instructional and managerial ideas and practices. Educators find it an attractive means of combining the benefits of such innovations as programmed instruction, mastery learning, individualized instruction, training psychology, applied performance testing, management by objectives, and general systems theory.

Because of its eclecticism, CBE appeals to educators with many different backgrounds and philosophies. It promises to bring accountability and make education more efficient and effective. It guarantees functional literacy and offers a more practical education suitable to the adult needs of its students. It also offers to make education more open and responsive to students' individual needs. It in effect promises to unite both conservative and progressive efforts and desires.

But despite its promises and widespread support, CBE remains largely untested. Theorists are far ahead of practitioners and frequently in disagreement. Educators may wonder just what CBE is and how well it will work in practice. This paper, on the basis of the available literature and interviews with practitioners, will attempt to answer such questions. It will look at CBE in both theory and practice, first defining CBE and discussing its implications, benefits, and problems. It will then view some developing CBE programs and discuss CBE implementation.

CBE IN THEORY

CBE advocates frequently complain that CBE lacks a consistent and clear definition. Gale and Pol express concern that educators use the label "CBE" with such abandon that its usefulness may be destroyed. Theorists thus devote considerable energy to defining CBE, sometimes attempting to force unity with prescriptive definitions. Even though theorists often disagree over some CBE elements, and the exact relationship of CBE to its parent ideas is not clear, a workable definition is possible.

What It Is: A Definition

Most theorists define *competency-based education* as a system for organizing and evaluating instruction. In Lasser and Olson's terms, it is a management process that dictates neither teaching methods nor learning objectives, but aims at bringing greater precision in both through systematic evaluation. Other theorists add desired objectives and teaching strategies to their definitions. In a sense, such theorists argue that the CBE process demands, or at least invites, special objectives and instruction if it is to realize its potential.

CBE differs from more traditional education in requiring that students master skills or behaviors to preset standards. Demanding demonstrated proficiency, it changes the certification process and thus requires changes in the whole process of education. Once the nature of the learning objectives or outcomes changes, instruction and assessment must respond in kind.

The essential requirement of demonstrated proficiency generates a system of interdependent elements: (1) specification of outcomes or competencies to be known by students in performance terms, (2) instruction leading to mastery of these outcomes, (3) evaluation of outcome mastery, (4) certification on the basis of this mastery, and (5) program improvement in response to student achievement. As Spady writes,

CBE consists of the systematic linkage of competency-based instruction, measurement, and certification around specified outcomes.

The Outcomes

These elements form the basic conception of CBE, but theorists often elaborate on these and add additional requirements. The nature of the outcomes, which determines the nature of the whole system, receives considerable attention. First, many theorists argue that the outcomes should be determined with student and community involvement. Second, many argue that these outcomes are to differ from traditional outcomes in more than their precise statement. As Gale and Pol state, the desired outcomes should be more comprehensive than knowledge, understanding, and skills. Competence, they write, is tied to a position or role and requires the possession and use of knowledge, judgment, skills, attitudes, and values.

This concept of competence, naturally suitable to professional and vocational education, is also applied to public education in the form of life-role competencies (outcomes that include the application of skills). Spady and Mitchell, who argue that CBE requires life-role outcomes, distinguish *competencies*, which identify the ability to perform in adult life-role activities, from *capacities*, more discrete skills and abilities that underlie competencies. True competencies, they conclude, will require students to apply knowledge, basic skills, and problem-solving abilities within a social context.

Instruction

Some theorists believe that CBE requires individualized instruction if it is to enable all students to master prescribed outcomes. CBE can make use of modular instruction, in which instruction is broken down into separate units, each incorporating specific objectives, alternative learning strategies, and mastery evaluation, as Russell describes. Students using modular instruction can progress through a sequence of units at their own pace. Schalock argues for a full personalization of CBE, which would mean not only flexible time and alternative

learning opportunities for outcome mastery, but also the chance to negotiate outcomes and assessment measures.

Spady and Schalock also argue that life-role CBE requires off-campus as well as classroom instruction. If students are to develop the ability to apply basic skills and capacities to adult situations, they will need to enter and learn in the community.

Assessment

Assessment under CBE, as all theorists agree, will use criterion-referenced testing, which measures performance against an absolute standard set in advance, rather than norm-referenced testing, which measures performance against the performance of others. The design of the CBE evaluation process, Schalock writes, will involve four steps. It will mean the identification of (1) indicators used as evidence of achievement, (2) measures used in obtaining evidence, (3) levels of performance for each measure, and (4) procedures for judging performance.

All these measurement elements will need to be directly linked to the identified outcomes. Educators who favor life-role outcomes also favor the use of applied performance testing, which measures performance of an authentic task in actual or simulated settings, as Evans discusses. Such testing, it is believed, will more accurately measure competence and predict success than standard paper and pencil tests. It will also invite incommunity assessment.

Theorists add that CBE program evaluation, directed toward continual program improvement, will necessitate both summative data, which indicates student achievement of program objectives, and formative data, which indicates the effectiveness of different program elements. Schalock also calls for evaluation that incorporates cost-effectiveness and long-term cost-benefit analysis.

What It Implies

The implementation of CBE can fundamentally change public education. In Schalock's analysis, CBE will change the focus of education away from processes and materials to out-

comes and evidence of outcome achievement. It will make explicit what is to be achieved and what has been achieved. It will also force educators to rely heavily on data on student performance and program effectiveness.

Since CBE assumes a systemwide approach, it will affect all aspects of education from goal setting to program evaluation. It will most notably change how a school uses objectives and assessment and how it organizes learning around time. Under CBE, objectives—traditionally left general and serving mainly as guides for teachers—will be made specific and measurable and will directly determine instruction and assessment. Life-role CBE will bring new outcomes not previously addressed in traditional curricula.

Assessment will need to be more exact and based on objective standards rather than on teacher intuition and judgment. Paper and pencil tests may not suffice for some outcomes. CBE also questions the meaning of letter grades, since it values outcome mastery, which either is or is not achieved, and not relative performance.

CBE challenges the traditional organization of the curriculum around courses, bringing a shift, in Spady's terms, from time-based to outcome-based instruction. The traditional course typically makes time the constant and learning the variable, but CBE seeks the reverse, stipulating minimum outcomes and allowing students flexible time in which to achieve them. It also questions the effectiveness of group classroom instruction, favoring instead individualized and off-campus instruction. And finally, CBE denies the importance of attendance. Outcome mastery, and not twelve years of education, will become the standard for graduation.

The Benefits

Advocates naturally claim that CBE will bring major benefits to education. Many CBE benefits remain theoretical, but some are beginning to be substantiated. First of all, CBE will undoubtedly guarantee some level of competence in graduates and thus enable schools to meet basic student needs and community demands. Competence may not be guaranteed, how-

ever, simply by setting firm standards and denying diplomas. CBE aims instead to bring all students up to standards. In practice, it is forcing schools to identify students with skill deficiencies—students often passed along—and to provide them timely remedial help.

CBE will also help guarantee competence by systematically directing instruction to desired ends. CBE should first bring improved curriculum organization, since CBE development requires a district to examine its goals and accordingly reorganize its curriculum. One district developing a basic skills CBE program, for instance, has found that its original curriculum largely ignored writing. Its new curriculum should improve writing skills simply by providing for appropriate instruction. And second, when CBE programs organize classes around specific objectives, they will also more aptly direct teachers' classroom efforts. As Lasser and Olson write, CBE aims "to keep the central issues central and educators at work on them."

The clarity CBE brings to the educational process should prove another major benefit. By making outcomes and achievement explicit, CBE will, in Gentry's terms, render the "normally ambiguous instructional process visible" and thus open to analysis and continual improvement. According to Glick and others, CBE offers the greatest "built-in potential for self-correction through feedback" of any educational system. Districts implementing CBE programs are finding that they generate enough data to provoke and guide program revision.

Life-role CBE should make education responsive to the adult roles and individual needs of its students. In Miller's view, it should enable students to find school "more varied, interesting, and practical" as it encourages new outcomes, individualization, and incommunity learning. For Spady and Mitchell, such progressive CBE can bring major reform. By emphasizing goals over traditional student roles and by including life-role instruction and expanded learning opportunities, it can, they argue, truly "mobilize the energies and direct the efforts of students and teachers." Only under such a program, they conclude, will students voluntarily adopt the desired instructional goals for themselves.

Some educators are in practice discovering that CBE does motivate students. Gary Robertson, English department chairman at Pleasant Hill High School, Oregon, told the writer in an interview that students show more interest in class because the explicit requirements of CBE tell students they must learn. He adds that the requirements have encouraged some poor students to raise their grades. Under the prompting of the requirements, they have tried and made progress, and their progress has reinforced their efforts. Other educators believe that explicit requirements bring only negative motivation: students work harder not because they want to, but because they have to.

CBE may also break down school-community barriers. It can involve the community in determining new goals and outcomes and send students out into the community for life-role instruction. The end result, according to Miller, should be education reflecting community needs and greater community respect for schools.

The Problems

CBE clearly promises much, but it also invites criticism. Some educators question the basic assumptions of CBE, and many point out potential problems in CBE practice.

Philosophical Objections

To begin with, CBE threatens the values inherent in liberal education. Some question the basic goal of CBE, especially life-role CBE, which, as Huff states, is to produce competent rather than educated graduates. Critics argue that education should be valued as an end in itself and that it becomes corrupted when turned to practical ends. At the least, they believe CBE should not neglect purely academic concerns in emphasizing the pragmatic.

From a similar perspective, other theorists fear that the reliance of CBE on behavioral science will make it narrow and mechanistic. Some have attacked the business-industrial model of management incorporated by CBE because it is grounded in quantitative analysis. By definition, they argue, the process

of education cannot be likened to factory production.

Many theorists have focused their attacks on the behaviorally stated outcomes used by CBE. Loser typically argues that much of what is educationally valuable cannot be translated into measurable objectives. Behavioral objectives, he continues, will only reduce important ideas and goals to trivialities. CBE advocates admit the limited ability of behavioral objectives to accommodate such outcomes as sensitivity, creativity, and the abilities to analyze and synthesize. Some, like Spady and Lewenstein, believe that CBE outcomes can and should include such capacities. Others, like Parsons, warn that CBE programs must avoid seeking too great specificity in outcomes, which will limit them to behaviors of the lowest cognitive levels.

Practical Problems

The practice of CBE involves a host of problems. CBE presents practitioners with difficulties from the outset because it demands considerable program change and because it is still new and evolving and only partially realized in practice. It requires the application of educational technology—including reliable and valid assessment instruments—not yet fully perfected. Educators find the development of CBE programs difficult and demanding of time, resources, and expertise. Furthermore, they have no tested program models to guide them. A fully developed program can strain management capabilities because it requires financing and coordinating complex record-keeping systems and varied and individualized opportunities for instruction and assessment. Much research and development work is still necessary for CBE to realize its potential in practice.

Educators will also want to consider additional specific problems raised by CBE. One problem, Spady notes, is that CBE may level student achievement to the minimum. By emphasizing minimum standards, CBE, he warns, may discourage high achievement and make the minimum the maximum. If given the opportunity, students may choose to leave school as soon as they satisfy the minimum requirements. Some

schools with traditional programs, facing declining enrollments, are already concerned that many students are choosing to graduate early.

Skill deterioration. Some educators question the ability of competency tests to ensure competent graduates. Martha Harris, curriculum specialist for the Eugene School District, Oregon, told the writer that CBE programs face two concerns in ensuring competence: the difficulty of developing adequate measures and, most importantly, the problem of skill deterioration. In discussing the latter, Wilson argues that students naturally lose skills gained through remediation and, consequently, that immediate testing will not reflect their true long-term gains. In addition, students lose skills, he states, because of lack of practice. Students proficient in skills in the ninth grade may no longer be so at graduation.

Wilson suggests two remedies for these problems. First, schools should require a waiting period of two or three months after remediation before testing. And second, they should structure their curricula to provide for continuous practice of acquired skills so they are not lost.

Some school programs address the problem of skill deterioration. One school's individualized math program, for instance, not only tests students at the end of each unit, but also tests them at the conclusion of the program for comprehensive knowledge. One elementary school district, which bases instruction on the progressive mastery of skills, retests students each fall to measure skill retention.

High failure rate. Many educators fear that CBE standards will deny students diplomas. Some Oregon schools, for example, finding that a high percentage of students are failing competency tests, worry that some will not meet standards by graduation. According to Gordon Cawelti, as quoted in "Side Effects Ignored . . .," competency requirements may also present a special problem to poor and minority students. In one recent district test, he states, some 8 percent of white students and 56 percent of minority students failed.

But districts may happily discover that appropriate instruction and remediation will prevent a serious problem. Districts

with some experience report little problem with students failing to satisfy graduation requirements. After several years of proficiency testing, the Denver schools, Ross notes, have been able to lower their failure rate to about 2 percent.

To lessen failure problems, districts are keeping standards at a minimum, typically at sixth- to eighth-grade levels. "Side Effects Ignored . . ." quotes Hazlett Wubben as warning that schools may not be able to demand more of students. Eighth-grade skills, he states, are the highest that all normally intelligent and serious students can be expected to satisfy.

Besides setting standards carefully and providing adequate remediation, schools should also consider four more means of alleviating the problem of failure. First, schools can waive individual competency requirements for students with special needs. Second, they can allow these special students to satisfy individualized outcomes and measures. Frank Lopes, assistant superintendent for education in the Azusa Unified School District, California, reported that his district plans to individualize competency requirements by setting, when appropriate, different standards for each student.

Third, schools can grant certificates of attendance to students meeting attendance and credit requirements, but not all competency requirements. Such certificates can specify all the requirements satisfied or the levels of proficiency attained. James Fillbrandt, director of instruction and research at Kern Union High School District in Bakersfield, California, said that his district has experienced little problem in granting certificates to the few students failing its competency requirements. The district allows students receiving certificates to participate in graduation ceremonies without distinction, and he believes that this participation minimizes parent and student unhappiness. Clark and Thomson encourage districts to give certificates of competency, indicating all requirements met, to all students, graduates or not, when they finish school.

As one final means of resolving the problem of failure, schools seeking a full CBE curriculum may require only a limited set of competencies of all students and develop individual programs of study for each student. This option is illus-

trated in the next chapter.

Constraints on teachers. Another problem presented by CBE practice is its threat to teacher freedom. By directing instruction to specific outcomes, CBE will dictate what, but not how, teachers teach. Some teachers are now unhappily finding that they must devote extra attention to basic skills instruction and neglect enrichment work. Further, some districts fear that remediation will command considerable teacher time. Districts can lessen such problems if they address competency requirements early in the curriculum and conserve more high school time for enrichment and elective study.

Program expense. CBE may also make education more expensive. As Schalock admits, program development can be costly, and program operation will likely be higher than for traditional programs. But CBE may, in return, bring greater short- and long-term benefits per unit of cost. As with so many aspects of CBE, the evidence is too scanty for definite conclusions. Fillbrandt states that his district, which operates a basic skills program, has had to spend \$2.50 to \$3.00 extra per student for record-keeping, assessment, and certification. The extra expense is an unavoidable add-on cost.

As more districts develop their own CBE programs, educators and the public may face an unwelcome diversity of programs and graduation requirements. Such diversity is presently creating a problem for transfer students. Districts are having difficulty with evaluation of transcripts, and students are suddenly confronting new sets of graduation requirements.

Finally, because of the problems inherent in measuring learning and developing CBE programs, most school districts follow the suggestion of Clark and Thomson who recommend that schools base graduation on both competency standards and traditional course credit. The traditional credit system offers flexibility and managerial ease and accommodates students' individual interests. More importantly, it also incorporates the socialization and experiential dimensions of education, which are not readily susceptible to CBE specification and measurement. Competency requirements and planned experience should together guarantee a comprehensive education.

CBE IN PRACTICE

Although CBE raises many problems and remains unproved, numerous local districts and states have put into practice a variety of competency-based programs. Some states are engaging in competency-based assessment only; others are basing grade promotion or graduation on demonstrated proficiency. As Schalock states, program outcomes vary among knowledge acquisition, basic skills mastery, and performance in life-role activities, and program operation ranges from the administration of a competency test to the total organization of the curriculum around specified outcomes. Few state programs, it must be noted, approach a full conception of CBE in integrating outcomes, instruction, assessment, and certification. Competency testing alone, as Spady argues, does not mean CBE.

Of the eighteen states that have mandated some form of CBE or competency testing, nine are requiring competency-based assessment for the purposes of identifying student remediation or program improvement needs. Nine others are requiring competency-based grade promotion or graduation. Of these, five are limiting requirements to the basic skills (Arizona, California, Florida, Nevada, and Vermont), three appear to be requiring skills beyond the basics (Maryland, New York, and Pennsylvania), and one has explicitly mandated life-role competence (Oregon). Decisions on competency standards are also pending in several more states and in Congress. Two bills before Congress would require students nationwide to pass basic skills tests before graduating. Altogether, some forty-six states, according to Pipho, have addressed the issue of competency standards through legislative, board, or department of education activity.

A look at three developing CBE programs will reveal something of the nature and diversity of CBE practice. The California program, the product of legislative mandate, is representa-

tive of most legislated programs in limiting itself to the basic skills. It offers a minimal CBE program. The Oregon system, initiated by the state board of education, remains the most ambitious state program to date. Though not fully competency-based, it calls for competency in broad life-role areas new to education. California's Fairfield-Suisun School District program, developed independently of state direction, incorporates a full competency-based curriculum of career area majors. The California plan is essentially an attempt to ensure student proficiency with as little curricular change as possible, while the Oregon and Fairfield-Suisun plans are radical attempts to transform public education.

California's Basic Skills Program

New California legislation, enacted in 1976 and 1977, requires districts to adopt elementary and secondary proficiency standards in the basic skills of reading, writing, and computation. The state will provide technical assistance materials, but each district, with the involvement of its community, will develop its own proficiency program.

Since California has many separate elementary and secondary districts, the K-12 program requires two directives. Districts maintaining junior or senior high schools will adopt high school graduation standards by June 1978, and districts maintaining elementary or junior high schools will adopt standards for grades six or eight by June 1979. Elementary and secondary districts will coordinate their proficiency standards. The standards will apply only to graduation and not govern grade promotion. After June 1980, all high school graduates must satisfy them.

The new program is clearly a reaction to perceived school failings. The author of the 1976 law creating the standards is a former teacher, Gary Hart, who became distressed at finding too many functionally illiterate students passed along to graduation. The 1977 law similarly protests the "seat time" graduation requirements that allow for incompetent graduates. But the new legislation, as Hart stresses, brings more than just standards and testing to ensure basic skills competence: it in-

corporate processes for identifying, teaching, and counseling students having problems meeting the new standards.

Under the new legislation, California schools will assess student progress toward the standards at least once during grades four through six, once during grades seven through nine, and twice during grades ten through eleven. Secondary districts will begin assessment during the 1978-79 school year, and elementary districts will begin the following year. Upon identifying skill-deficient students, schools will hold conferences with the students and their parents and will provide additional instruction and numerous assessment opportunities. Districts have the option of adopting differential standards and assessment procedures for students with diagnosed learning disabilities. The law concentrates on the assessment process and forces no major changes in schools' standard curricula. Schools may want to make curricular changes on the basis of their assessment results.

The new legislation also includes a provision not directly related to the proficiency standards, but in line with CBE theory's emphasis on individualization. With parent and student involvement, districts are to adopt alternative means for students to complete required credits. Such means can include practical demonstration of skills, off-campus experience, and independent study.

The new emphasis on basic skills could potentially encourage districts to place limitations on their curricula. Hart, however, warns schools against retrenchment. "Competency-based instruction," he states, "should not be implemented at the expense of flexibility, of creativity, and of innovation. Basic skills are most effectively taught when integrated throughout the entire curriculum."

Districts are beginning to develop and implement the new standards. Program success will undoubtedly depend on the process of implementation. To prevent student confusion over double sets of requirements, elementary and secondary districts need to cooperate closely in articulating their standards. The state will distribute a technical assistance guide and sample assessment items and hold followup workshops for districts.

Oregon's Life-Role Program

The Oregon CBE mandate, initiating the first statewide CBE program, came in the form of new graduation requirements adopted by the state board of education in 1972. The requirements were subsequently integrated into new, broader minimum standards for schools, adopted in 1974 and revised in 1976. The development of the requirements, which began in 1969, included a survey of educators, students, dropouts, and the general public that revealed widespread dissatisfaction with public education. The public felt that the diploma had lost its credibility and that schools failed to prepare students to function as adults in a complex society. The new life-role program seeks to satisfy these concerns by ensuring minimum competence and by directly addressing students' adult needs.

Life-Role Competencies

The state originally intended to mandate specific skills for district programs, but instead decided to give districts considerable program freedom and to identify only broad skill areas. The new state goals require that districts prepare students to function effectively in six life roles, those of the individual, learner, producer, citizen, consumer, and family member. Students will achieve such competence by meeting requirements of attendance and credit—including new credits in consumer and career education—and outcome mastery in ten skill areas. In fulfilling the skill areas, set forth in the Oregon Department of Education's *Elementary-Secondary Guide for Oregon Schools, Part I*, students will demonstrate locally determined competencies necessary to

- (1) Read, write, speak, and listen
- (2) Analyze
- (3) Compute
- (4) Use basic scientific and technological processes
- (5) Develop and maintain a healthy mind and body
- (6) Be an informed citizen in the community, state, and nation
- (7) Be an informed citizen in interaction with the environment
- (8) Be an informed citizen on streets and highways

- (9) Be an informed consumer of goods and services
- (10) Function within an occupation or continue education leading to a career

The class of 1978 originally was to satisfy all competencies. Under the new standards, however, the 1978 class is meeting the language, analysis, and computation competencies, and the class of 1981 will be the first to satisfy all.

The new competencies—first viewed as minimum survival-level skills but now as functional-level skills—require more than traditional academic outcomes. The state emphasizes the application of skills in practical tasks. It defines competency in terms of “student performance representing demonstrable ability to apply knowledge, understanding, and/or skills assumed to contribute to success in life role functions.”

Oregon educators, Nance states, have been hesitant to change from academic to applied outcomes. Most districts, he notes, have identified such traditional outcomes as the abilities to perform the four fundamental processes of arithmetic with whole numbers and to locate the topic sentence of a paragraph. If changed to applied terms, he continues, such competencies could require the abilities to balance a checkbook account of ten withdrawals and three deposits and to read an apartment rental contract and specify the terms to which lessor and lessee agree.

The Oregon system also requires that districts develop indicators of performance or assessment guidelines for each competency. Districts can use this double-layered statement of outcomes to keep competencies few and broad in scope and identify specific tasks in the indicators. Under this requirement, the competency, “Students can apply basic reading skills to obtain information from reference materials,” could receive verification through performance indicators similar to the following: (1) Students will use a dictionary to find the correct meaning, spelling, pronunciation, and use of ten words selected from a newspaper; (2) students will use a library card catalog to find information of use in three assigned areas; and (3) students will read a newspaper article of about 200 words and answer correctly four of five factual recall questions

(sample indicators adapted from the Oregon Department of Education's *Graduation Requirements Guidelines, Revised*).

Oregon's use of applied outcomes, which is followed by some basic skills programs, receives some research as well as conceptual support. A recent National Assessment of Educational Progress study, for instance, shows that just because a student possesses a skill does not guarantee that he or she has the ability to apply it. Don Phillips, cited in "Taking a Hard Look," discusses the study's findings, "Seventeen-year-olds can read, write, and compute in well structured situations, but they have difficulty applying their knowledge to new situations." They do poorly, he continues, "on problems that require more than one step." The insistence on application, then, should help to guarantee adult competence.

The full import of Oregon's life-role competencies appears most notably in the competencies that address issues of social responsibility in a practical manner. The competencies developed by Schalock and others illustrate Oregon's responsiveness to adult life needs. The competencies include the abilities to describe personal values in relation to dominant community values, to identify major community needs and determine ways to meet them, to cope with everyday stresses and problems, and to find work. For one competency (the ability to function as a wise and responsible consumer) Schalock and others identify four indicators that require the abilities to (1) make price and quality comparisons for goods and services; (2) use knowledgeable people, published resources, and consumer agencies in comparative shopping; (3) exercise available means to obtain refunds or substitutions for goods and services that are faulty or fail to meet advertising claims; and (4) exercise consumer protection laws against fraudulent businesses. Students are ideally to satisfy these indicators through reports recounting first-hand experience and application of knowledge. By placing students in the community to learn and apply skills, these life-role competencies bring both a new kind of learning and new experience to education.

But because they embody new ideas, Oregon's life-role competencies also open themselves to problems. The compe-

tencies developed by Schalock and others, for instance, can in practice raise value conflicts in their exploration of business practices and community and personal values. Some districts have written affective and value-laden competencies that require a positive attitude at work, good sportsmanship, and good grooming. Some theorists, like Spady, maintain that schools should openly make attitudes and values a part of desired outcomes. But many educators question the wisdom of holding students accountable for attitudes and values that are desirable, but not essential, and that invite assessment problems. One district has explicitly excluded values from its competencies.

The competencies, the major addition to Oregon's graduation requirements, form only part of a comprehensive CBE program. Oregon districts are now designing instruction (at both elementary and secondary levels), assessment, and certification around the new competencies.

The CBE program in addition receives a broad systems framework in Oregon's new goal-based planning system. To ensure ongoing program improvement, the new planning system requires school districts to engage in four processes: (1) goal setting—at district, program, and course levels—with community involvement, (2) assessment of both group and individual achievement of the goals, (3) identification of program and individual needs, and (4) improvement, in both instructional and support programs, to satisfy identified needs. The new system shifts emphasis from resources to outcomes and their identification, instruction, and assessment.

Program Flexibility

The Oregon plan also encourages the personalization of education favored by progressive theorists. It requires districts to individualize instruction by adopting procedures for identifying individual learning strengths and weaknesses and by providing learning opportunities appropriate to identified needs. Districts must also determine and report student progress

toward graduation requirements. They must in addition develop guidance programs responsive to individual needs and goals.

The new credit requirements allow districts and students greater flexibility because they change traditional subject units to "required areas of study." Under these requirements, districts are free to experiment with new course offerings, and students can choose from a variety of courses and apply portions of courses to meet required credits.

The state also encourages flexibility in attendance requirements, permitting early and delayed graduation, credit by examination, and credit for off-campus experience. Most districts have moved slowly in developing credit and attendance options, but one district now enables students to satisfy six of the required twenty-one credits through off-campus experience. Another enables students to negotiate individual plans for fulfilling credit requirements.

And finally, the state allows districts to vary their assessment procedures. Districts can alter indicators of performance, grant competency waivers for students with unique needs and abilities, and also grant certificates of attendance to students not fulfilling all competency requirements.

A Preliminary Evaluation

The Oregon program, an attempt to fundamentally reform a state system along CBE principles, has received much publicity and provided something of a model for progressive CBE theorists. Now, after five years of local district program development, educators await word of its success in practice. A full evaluation of Oregon's life-role CBE will naturally take some years and depend on the adult experience of its graduates. The available, if fragmentary, information reveals that the new system has brought mixed results—many problems, but some genuine success. District programs presently vary widely in terms of nature, progress, acceptance, and success.

Districts initially developed competency lists ranging in number from less than 20 to almost 400. Many districts identifying large numbers of competencies have found it necessary

to revise their lists. Some districts have made major efforts to redesign their curricula, while others have tried to minimize change, some to the extent of circumventing the new requirements. Some districts are favoring inclass teacher assessment; others are emphasizing districtwide tests. Many districts have been experiencing difficulties in meeting state deadlines, and some are not certifying competencies on schedule. Others, ahead of schedule, are requiring the class of 1978 to meet all or a major portion of the competencies.

Practitioner perception and acceptance of the new system also vary. Some see only problems and hope the requirements will be dropped. Some, including program opponents, do not really understand the new system. Others believe that it is truly improving the quality of education. In some instances, as Miller writes, initial resistance has changed to support once the system has begun to show practical benefits.

Such variance is the inevitable result of leaving program choice and development to local districts, a plan demanded by local districts themselves. But despite such variance, one conclusion is clear, as Lee Hall, teacher representative on the Oregon Board of Education, noted in an interview: program success to date has depended on the process of implementation. Poorly managed development, as Hall stresses, has brought disaster, while well-managed development has brought at least tentative success.

Fairfield-Suisun's Career Major Program

The Fairfield-Suisun Unified School District, California, is implementing a full competency-based curriculum that comprises both a common core of required skills and competency-based majors. The moderate-sized district of two regular and two continuation high schools has been developing its program for five years, after its board approved a teacher-initiated plan. Community and student committees have joined in the development work. The new competency requirements become effective with the class of 1979.

Lee Brown, the district's graduation requirements project director, and Tom Giugni, the superintendent, stated in inter-

views that all students must satisfy a common core of thirty-seven skills—each subdivided into two or three competencies—in language, mathematics, science, citizenship, and career education. Beyond this, students must master up to 100 skills in a major, defined not in terms of traditional subject matter, but in terms of career areas. The district offers for major study such program areas as public service, communications media, industrial arts, and agriculture. Students can choose a general program major or can specialize within a program area. They can, for example, choose the broad fields of industrial arts or agriculture or the particular majors of metals or ornamental horticulture.

The district still maintains traditional academic courses, but students must take them as part of, or in addition to, their career majors. It also continues a university preparatory major that it intends to keep small. Students can, if they choose, still graduate under the old credit system, but under the new program they no longer have to fulfill any credits beyond those required by the state.

The district is redesigning its curriculum to fit the new outcomes. Schools are assigning skills to specific courses and places, such as skill centers, and building new core courses for the core skills. The district is also coordinating its elementary and intermediate curricula with its graduation requirements. It expects that in the future students will be satisfying half of their minimum core skills before entering high school. As it proceeds with development, the district plans to offer incommunity experience and a variety of learning options for each skill. Teachers are assessing students in class or in skill centers.

The district has sought to develop school-community ties. From the start, it has consulted business and professional people on program requirements and now has formally established industry-education, public service, and vocational councils for ongoing consultation, as Haugen, Dillman and Brown state. The councils have promoted both suitable career programs and closer school-employer contact. Through the aid of the industry-education council, for instance, the school in-

volved a local bank in career education instruction. Students filled out the bank's job application forms, and the bank critiqued them for the school. The district is presently inviting community organizations such as 4-H and the Scouts to coordinate their programs with its curriculum and provide off-campus instruction.

Although the class of 1979 has presently satisfied most of the common core, the new program is still tentative, and the district lacks information on its effectiveness. To date, implementation has brought many difficulties and much debate, but as Brown states, the frustration level has been reasonable.

The Fairfield-Suisun program bears watching, because its plan, of all CBE models, appears to offer the best means of achieving a fully competency-based curriculum. Programs that require a uniform set of competencies of all students or simply translate a traditional curriculum into performance objectives find that they must keep outcome levels to a minimum or else face serious failure problems. Because Fairfield-Suisun offers a variety of programs responsive to individual abilities and goals, it can require achievement beyond the minimum. Its program also enables schools to individualize CBE with some structure, providing students ample choice within the framework of required minimum skills and defined career areas. In its effort to achieve competence beyond the minimum, individualized programs of study, and community involvement, the district's plan addresses the ideals of progressive CBE theorists and practitioners. Although the Fairfield-Suisun plan may not guarantee better education than other CBE program models and, indeed, emphasizes the pragmatic over the academic, it carries the means to realize the full potential of CBE.

CBE IMPLEMENTATION

As competency-based education grows in popularity, it is inevitable that educators in increasing numbers of school districts may wish, or be forced, to adopt some form of CBE. Since the process of implementation is so crucial to program success, this chapter considers problems new CBE districts will encounter and offers what recommendations are now possible.

Educators turning to CBE will naturally need to consider general guidelines appropriate to any major innovation. They will also face concerns peculiar to CBE. As John Packard, research associate for the Center for Educational Policy and Management at the University of Oregon, told the writer, educators will encounter four major developmental problems in sequence: identification of outcomes, assignment of responsibility for outcome instruction, determination of assessment procedures, and development of record-keeping procedures.

Laying a Foundation

The process of successful innovation may remain something of a mystery, but some general commonsense guidelines are available for practitioners. As Hall and Jones argue, educators should from the start base their management on contingency planning and set provisions in advance for making future decisions. Then, when sudden problems present themselves, they can rely on ready-made procedures rather than on reactive decision-making. Educators should also, as Hall and Jones add, provide clear order to the development process by assigning specific tasks with specific deadlines.

In addition, innovators need to cultivate staff acceptance and ownership of the new system. Management should avoid bluntly dictating change and instead, as Lasser and Olson emphasize, seek to plan cooperatively with staff. Some way must be found to enable the staff to participate in decision-making.

Management will also promote staff acceptance if it arranges for released time or pays for development efforts. Finally, it must communicate clearly so everyone understands the nature of the innovation and his or her role in its development.

The implementation of CBE, since it affects the whole educational process, will normally require several years and likely necessitate a gradual phasing-in of program elements. The time required depends of course on the nature of the new program. Educators will undoubtedly choose a CBE program because of its perceived benefits and not primarily because of its ease of implementation. They should, however, consider the recommendation of several educators who have already tried it: begin small and add later. While some districts have successfully implemented large-scale programs, others have had difficulty putting into effect even moderate-sized programs, discovering midway through implementation that they have attempted too much. Districts may want to start with a basic skills, or even a single skill, program, and then as they gain expertise, move on to a life-role or full curriculum program.

Districts can avoid the risk involved in massive change by beginning and working with models of excellence. As Cora Schultz, coordinator of the Research and Development Laboratory in the Newport-Mesa Unified School District, California, told the writer in a telephone interview, districts can implement a model program with a small group of advocates and thus avoid having to force change on unwilling staff. Once it succeeds, as it most likely will with supportive staff, districts can promote it to others on the basis of its results. The Newport-Mesa district, for instance, implemented a new assessment program in just a few volunteer schools and then expanded a tested program to the remaining schools. Models of excellence can even work within the strictures of a district or state mandate. Even if all schools must meet minimum standards, individual schools can test more comprehensive programs.

Identifying Outcomes

The most important task of CBE development is the identification of outcomes, since the new outcomes will shape the

entire program. The task brings both philosophical and practical problems. According to Hathaway, educators can develop new CBE outcomes in any of three basic ways: (1) analysis of outcomes inherent in the present program, (2) analysis of tasks to be performed by students after graduation, and (3) consensus of the school and community over educational goals.

The simple translation of the existing program into specific competencies might prove the easiest approach, but it offers the least chance for meaningful change. Most CBE theorists favor a combination of the latter two approaches. The second would seem the most likely to ensure education appropriate to adult needs. But lacking empirical data on adult life tasks and needs, districts will have to proceed by professional and community insight and intuition. They will certainly want to use established competency lists or the levels of standardized tests as guides.

The experience of some Oregon districts may serve as a guide and a warning to others. Oregon educators, as Hall told the writer, have encountered great difficulty in translating an abstract concept of life-role competence into concrete competencies. From the outset, they have faced confusion over the meaning of survival- and functional-level skills. For some, the identification process was painful, as it brought philosophical and political arguments over the nature of desired and essential outcomes. Task force members, lacking a common and clear conception of the desired outcomes, operated on private and conflicting conceptions, some favoring college preparatory skills, others very minimal skills. Some outcome-setting committees, uncertain in aim, kept accepting suggested outcomes without rigorously evaluating their suitability. Clarence Mershon, graduation requirements project director for the Parkrose School District, told the writer that his district avoided confusion over survival-level skills by defining the desired outcomes as the minimum acceptable skills to be expected of high school graduates.

One district entered the identification process with enthusiasm only to encounter pain and frustration as a result of serious tactical errors. Its task force found that the absence of

clearly defined district goals and misunderstanding of the state mandate added to its confusion over the nature of the desired outcomes. The competency committee, lacking the guidance of newly thought-out goals, wrote both inessential and too many competencies, as it incorporated all the traditional course content that its members thought important. The division of the committee into subcommittees for each curriculum area also contributed to the overabundance. The subcommittee members, naturally enthused and apparently believing they needed to justify survival of their programs and courses through competencies, lost perspective and acted as advocates for their own subject areas.

In the end, the district, like many others, created a serious management problem by writing too many competencies. Finding the implementation of over 200 new outcomes unmanageable, the district later revised its competency list down to thirty. The drastic cut has brought more problems. Program advocates have lost interest, and opponents have hardened their opposition. Students and teachers, suddenly finding requirements transformed, are confused.

Another district has suffered an even more damaging revision. An administrative committee, without teacher participation and with greater concern for management ease than for educational value, cut competencies to one-fourth their original number. The arbitrary cut has nullified the original effort, alienated staff, and brought general confusion and cynicism.

Some competency revision, it should be added, has been necessary for most Oregon districts. Upon conceptual and goal clarification, districts have cut inessential and redundant competencies, combined very specific ones, and reordered them to achieve better elementary and secondary articulation. Revision has also taken place following instruction and testing, as districts have found some competencies too easy, difficult, or vague and thus demanding of change. For many districts, outcome revision has been ongoing and healthy.

Organizing a Task Force

Considering the difficulties and effort involved, a district

developing a full CBE program will need to turn to a task force, as Acheson suggests. A committee, if representative of district staff, will ensure a breadth of ideas and expertise and help develop staff commitment and ownership. The committee should include district office staff and teachers from all curriculum areas and grades, in the opinion of Bert Simmons, principal of North Eugene High School, Oregon. Tom Houston, director of secondary curriculum for the Springfield School District, Oregon, told the writer he believes the committee should also include building level administrators. Consultants from experienced districts, the state, or universities could prove helpful.

At the outset, the CBE task force will need to achieve conceptual clarity. Ideally, it should ground its outcome development in a critical examination of the present goals and curriculum and a search for a more meaningful education. New educational goals should help the committee determine what kind of outcomes it truly wants. And further, a clear idea of outcomes will ease subsequent development and prevent the problems encountered by some Oregon districts. Oregon's Pleasant Hill School District, as Lorin Miller, its former high school principal, told the writer, successfully initiated its outcome development through an exploration of new curriculum directions with staff, students, and the public. In seeking to define survival skills, the district also consulted workers in the community. It questioned grocery store workers, for instance, on what math skills adults needed for shopping.

As the task force reaches consensus over the nature of the outcomes, it will want to begin organizing outcome ideas under general headings, according to Acheson. Some headings will certainly follow traditional subject matter headings, but others, such as analysis or problem-solving, will likely cross traditional boundaries. After such organization, the committee can speed up the identification process by dividing into subcommittees for each competency area. But to help the subcommittees maintain a proper perspective and avoid subject matter advocacy, the committee should assign some members of different disciplines to each subcommittee.

The larger committee should consider setting some limit on the number of competencies it writes. A task force identifying only basic skills competencies may not need to worry about numbers, though one district is finding its fifty-seven new basic-skills outcomes a management problem. A committee seeking a comprehensive list should surely worry about overextending itself. As Miller told the writer, 80-120 competencies may be ideal for a life-role curriculum, since they can provide sufficient breadth without causing serious management problems. A committee may wish to give free rein to its subcommittees and then revise and reduce its list as necessary before final approval.

Committees will need to develop assessment guidelines for each outcome. Committees afraid of too many outcomes and record-keeping problems can keep outcomes broad and develop several indicators for each to ensure adequate assessment. Lopes suggested that committees wait in identifying indicators, since fear of assessment problems may hurt outcome creativity. And Simmons recommended that committees field test outcomes and indicators on a cross-section of people before finally approving them. Fillbrandt and Merz report that the Kern district tested the performance levels of community people to determine the cut-off scores and validity of its new reading and mathematics proficiency tests. The district tested what it considered successfully functioning graduates, persons employed in entry-level jobs that required only a high school education. The district study answered staff doubts over the new standards, the authors conclude.

Acheson makes several additional suggestions for a development committee. Group leadership, he notes, should demonstrate procedures that will direct members' efforts and keep them working at a practical level. Committee members will want to see their efforts produce some tangible results.

To encourage criticism and new ideas, the subcommittees, he adds, should frequently share their work. They will also want to compare their work with outcomes developed by other districts, but they should first develop some of their own before consulting ready-made lists.

Acheson also provides a helpful method for writing competencies. Beginning with a proposed idea, each committee member should develop a working statement of the competency. The committee should then pool the different efforts and seek agreement on a single clear statement that synthesizes all versions. Only after it determines the wording of the competency should it decide to accept, change, or reject it. The group should find, he argues, that clearly worded and commonly understood statements will ease decision-making.

At some point, a task force should involve community members in its development effort, both to satisfy public wishes and to gain an added perspective. Many districts have simply consulted standing citizens advisory committees, but others have sought extensive school-community dialogues, inviting community participation through newspaper ads and town meetings. Oregon's Beaverton School District, for instance, collected over 15,000 statements by inviting community members to small meetings in the schools for discussion of desired graduation skills and knowledge. Dick Olson, coordinator of student services for the district told the writer that district staff also visited local community groups for discussion and had members rank order a list of tentative goals. The district also surveyed its staff and sampled public views through a research group.

A district should involve the community along the way and not ask it to review a finished product. One district caused ill feelings by waiting until it had developed a full list of goals before involving its community committee. It also found the committee more interested in how, rather than in what, its teachers taught. Brad Templeman, principal of Sheldon High School, Eugene, Oregon, warns that community involvement may begin painfully as the public vents long-standing frustrations, but it should end in positive cooperation and community commitment to the schools. CBE is particularly open to community involvement in both development and operation.

Promoting Staff Morale

A major innovation like CBE, which requires considerable

development and affects staff roles, demands special attention to staff morale. Administrators will likely encounter one morale problem at the start—teacher fear that the CBE assessment process will be used for teacher evaluation. Administrators will need to allay this fear to gain staff confidence.

As theorists argue, districts should use all opportunities to encourage exchange of ideas and staff participation during CBE development. Project leaders can circulate position papers to all staff to open communication and invite response. Hall and Jones suggest that each time committee members tentatively complete a task, they distribute proposals to other staff to request criticism and changes. The Azusa district, Lopes stated, aided communication by releasing one teacher from each school half-days during development to serve as staff and student liaison workers. The teachers were able to discuss program development freely with other staff and students, easing fears and sharing ideas.

Communication is important not only in encouraging staff involvement, but also in simply preventing misunderstanding. In some Oregon districts, teachers are resisting the new program partly because they do not understand it. Lacking a clear sense of program purpose, teachers may too easily resent every minor inconvenience.

Districts should also give teachers pay or released time for development work to promote both morale and better work. Lopes reported that the Azusa district arranged for some 200 substitute days to release teachers for committee work over extended periods. The expense has been justified, he believes, because the teachers, responding to the district commitment and able to work without frequent interruptions, were contented and especially productive. Not all districts will be able to afford so much, but as Lopes argued, districts should make some financial commitment. Even \$3,000 in substitute time, will show teachers that the district is seriously committed.

Assigning Instructional Responsibility

Once outcomes have been identified, district committees need to assign responsibility for their instruction. The assign-

ment process may reshape the curriculum as new outcomes suggest new courses and learning opportunities. A new basic skills program is leading one district to consider dividing its English department into communication skills and literature departments. Oregon schools, besides implementing new courses in consumer and career education, are reworking traditional courses in all departments.

Districts should assign primary responsibility for the outcomes to specific courses and optimally redesign courses around them. As Packard told the writer, some Oregon districts, perhaps responding to teacher anxiety over evaluation, have assigned responsibility as diffusely as possible. By assigning outcomes to departments rather than specific courses, or even leaving students primarily responsible for their achievement, such districts have effectively divorced instruction from the outcomes and continued on as before. As a result, students may not receive instruction truly responsive to the requirements they must satisfy, and teachers will lose the feedback benefits of CBE.

When schools design courses around competencies, they should consider limiting the competencies to four per nine-week course, in Miller's viewpoint. Under such an arrangement, the teacher will have time to give extra attention to both high- and low-achieving students as he or she certifies competencies throughout the course.

Districts may want to assign the same competencies to different courses to give students greater choice in planning. But Miller warns against scattering competencies indiscriminately throughout the curriculum and thus creating management and scheduling problems.

Since many students will not satisfy the competencies at the first try, schools will need to provide secondary opportunities. Some students will take advantage of different courses carrying the same outcomes, but a good portion will require some remedial instruction. CBE schools can use a variety of remediation procedures. They can, of course, develop special remedial classes. One district, for instance, has initiated a "Last Chance" English course that covers all its language com-

petencies. Its high school automatically assigns students not satisfying the competencies in regular ninth- and tenth-grade classes to the course, which provides individualized instruction, until they satisfy all competencies. Some schools assign students to resource centers for individual attention, and many are developing modular sequences for independent study. One district asks all students failing competency tests to work out individual programs with their teachers. In general, schools should provide some formal remedial structure so they do not place too much responsibility on students already experiencing difficulties.

Some high schools, finding that many students are failing basic skills competencies, complain that remediation will overburden them. But by beginning competency instruction and certification in elementary and junior high schools, districts can limit remediation problems and expect students to satisfy a good portion of their basic skills before high school. Robertson reported that since his district adjusted its seventh- and eighth-grade curriculum, incoming freshmen need less work on basics. Some students, he adds, are now challenging the regular freshman English class.

Determining Assessment Procedures

As they assign instructional responsibility, districts need to devise procedures for outcome assessment. Besides facing problems in developing adequate criterion-referenced measures, they must decide whether to use districtwide tests, in-class teacher evaluation, or some combination of the two. The first approach promises greater objectivity, but it requires much development work, does not suit many life-role outcomes, and encourages a dissociation between instruction and assessment.

Inclass teacher evaluation clearly offers the greater benefits. It guarantees a close tie among outcomes, instruction, and assessment, and better enables teachers to evaluate the effectiveness of their instruction. It also is less cold and mechanistic than standardized testing. The personal contact between teacher and student should help teachers identify student prob-

lems and arrange appropriate remediation.

One district, having chosen to limit its use of teacher evaluation as much as possible, explains that subjective teacher judgment will invalidate CBE assessment. Some district educators have complained that teachers are too harsh in judging students, while others have claimed they are too lenient. But the use of more explicit indicators, greater staff understanding of the new program, and appropriate supervision should help eliminate such judgment problems. Lopes suggested that boards of two or more teachers assess students when teacher judgment will likely be at issue.

Districts need to begin assessment, as well as instruction, early in the curriculum to avoid management problems and ensure timely detection and remediation of student problems. One district unfortunately waited to assess students' mastery of sixth-grade skills until the end of their junior year, and now it discovers that about one-quarter of the students need remediation. Other districts are having success testing students for graduation outcomes as early as the sixth grade. In addition to early assessment, districts need to provide multiple assessment opportunities, spaced over the curriculum, so that all students enjoy the fullest opportunity to achieve standards.

Developing a Record-Keeping System

The final major concern of CBE implementation is the development of a workable record-keeping system. Because it is so data-dependent, CBE requires extra record-keeping effort, a cause of many educators' complaints. Some CBE districts have experienced serious record-keeping problems. One district cannot trust its computer system because it prints out unreliable and contradictory reports. Another states that its system has broken down and that staff have no way of knowing how many competencies students have completed. But CBE does not necessarily mean record-keeping problems, especially for districts with limited and carefully assigned competencies. Some districts with over 100 competencies have experienced no major problems.

Districts assessing students through a single proficiency

test should face only minimal management and record-keeping problems. Districts designing courses around outcomes and using inclass evaluation can choose between two reporting systems. They can either keep outcome certification and course grades separate, an approach most Oregon districts follow, or unite the two by making course completion dependent on outcome achievement, as CBE theory suggests.

One district, following the first approach and using the Oregon Total Information Service computer system, is happy with its system. To certify students, teachers simply record achievement of numbered indicators in their grade books and, at the end of the course, mark off numbered competencies on computer grade sheets. The system generates both individual student reports that list all competencies completed, missed, and not yet attempted and comprehensive reports that similarly identify the competency achievement of all students, grade by grade.

A district following the second approach, but without benefit of a computer, also reports record-keeping success. Since the district has carefully assigned competencies to its classes and equates a course pass with competency achievement, teachers can informally record indicator and competency progress on their own and indicate completion of competencies solely through course grades. To prevent students from having to repeat courses for a single missed competency, the district empowers teachers to give extended incompletes and make individual arrangements for completion.

Though not essential, a computer system is desirable, many educators state. But since computer systems have presented some difficulties, districts should consider the recommendations of two Oregon educators. To help schools limit the consequences of system failure, Hall suggests they maintain a central file for manual recording of student progress. Houston adds that districts should cautiously implement a data processing system and first work out its problems on a small segment of the curriculum.

Other Things to Do

Districts will of course face additional concerns in CBE.

implementation. Some, such as public information and staff development, are especially important, while others are relatively minor but still deserve attention.

Public Relations

Public information, as the complement to community involvement, demands special attention because CBE can greatly change a district program and its graduation requirements. The Beaverton district's effort illustrates some public information practices and issues. The district widely publicized its new goals through reports to the board, media coverage, school newsletters, posters, and presentations to community groups.

To publicize its new competencies, the district focused its effort on parents and made use of board reports, newsletters, letters to parents, and public meetings in the schools. As Dick Olson and Nancy Ryles, board chairman for the district, told the writer in separate telephone interviews, the district chose to present its competencies as a comprehensive set, since individual ones, when questioned in isolation, might not always appear essential to graduation. The district needed to ease parent nervousness over the new requirements, particularly fears that inconsistent assessment of subjective competencies might unfairly keep students from graduating. The district also needed to explain the reason for the competencies. It found that the public approved of the new standards and the accountability the program achieved.

Staff Development

CBE implementation will also demand a concerted staff development effort, both to prepare staff for their new roles, including those of implementation, and to improve staff commitment. Giugni reported that his district has encouraged staff development through widespread staff participation in program development. As an example of this participation, he pointed out that after a committee of physical education instructors identified new outcomes all such instructors met to review them.

Schultz emphasized the need for comprehensive ongoing

inservice education that provides for practice and relates directly to staff tasks at hand. To prepare staff for using a new testing system, her district held a workshop to cover test items and test site environment. After the test, it held another session to help teachers work over the results. Such timely inservice offerings, she argues, will succeed much better than an isolated session distanced from specific staff needs.

Lasser and Olson, reviewing the literature, suggest that districts initially provide intensive training, using a variety of approaches, and follow up with regular ongoing meetings, which can enable the district to respond to problems as soon as they arise. They also believe that staff development should involve practice and include the preparation of materials for actual classroom use.

In response to the many practical concerns of CBE implementation, Miller offers some additional suggestions for districts starting a life-role curriculum. First, to avoid unnecessary management and scheduling problems, districts should clearly chart a transitional course structure, identifying required courses and sequences and the location of competencies throughout the curriculum. Similarly, districts should develop a guidebook that lists all available options—and their requisite procedures—for attendance waivers, credit-by-examination, off-campus credit, and independent study.

Lastly, Miller suggests, high schools should require that entering students, with the aid of counselors and teachers, map out a schedule for high school completion. Schools should periodically review the schedule to ensure appropriate progress. Such practical steps, and public information and staff development efforts, should help students, parents, and staff adjust to a new and complex system with a minimum of confusion.

CONCLUSION

Will competency-based education realize its claimed potential and provide both accountable and more personal education? Some tentative evidence, at least, bears out the claims of CBE theory and suggests that well-implemented CBE programs can bring significant benefits. Competency-based education remains, however, a largely untested innovation.

CBE's rapid adoption rate suggests that many educators are not waiting for conclusive evidence that it will live up to its claims. Responding to promises of CBE advocates and public pressure for new standards, educators in many states are incorporating various forms of CBE into their school curricula.

For educators adopting CBE programs, the best chance for successful implementation appears to lie in cultivating good staff morale, addressing outcomes early in the curriculum, and linking outcomes, instruction, and assessment in newly designed courses. Based on the experience of districts that have already implemented CBE, developers should start cautiously with a limited number of new outcomes and expand their programs through the use of models of excellence. And because of the limitations inherent in performance objectives and the threat to the values of liberal education, districts may want to continue requiring traditional course credits in addition to competency achievement.

Most importantly, as educators implement new CBE programs, they should not betray CBE from the start by emphasizing only performance standards and turning away from the innovations of the sixties. New standards alone cannot hope to resolve the serious problems facing public education today. New standards will truly improve education only if carefully integrated into an instructional system that is attentive to students' individual goals and needs.

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